MassDEP Field Assessmen t and Support Team

Framingham – General Chemical Facility

July 30, 2012

Air Monitoring During Initial Facility Decontamination Operations

















Background

On July 30, 2012, the MassDEP FAST Mobile Laboratory was deployed to the General Chemical facility on Leland Street in Framingham, to monitor air quality during the initiation of invasive decontamination operations. The laboratory arrived at the site at about 10:15 AM, and departed at the cessation of cleanup activities for the day, at about 6:30 PM.

A tiered air monitoring program was instituted to evaluate remedial air emissions:

- MassDEP personnel would periodically survey property locations with a hand-held photoionization detector (PID), to determine concentrations of Volatile Organic Compounds (VOCs).
- Four stationary AreaRAE monitors were positioned around the tank farm area, where work was being conducted, designated as DEP-1, DEP-2, DEP-3, and DEP-4 on Figure 2. DEP-1 was moved at about 1 PM, to an area on the edge of the tank farm, in order to obtain source-area "worst case" data. Each of these units was equipped with a 10.6 eV photoionization detector (PID), which continuously transmitted data every 2 seconds to a receiving unit located in the mobile laboratory. Each AreaRAE monitor was programmed to alarm if a value of 0.1 ppmV was exceeded (the lowest setting for these units).
- Over the course of the day, 8 air samples were obtained in 1 liter bags at different locations on the property, based upon cleaning activities, wind direction, PID readings, or odor conditions. Each of these samples was promptly analyzed on a HAPSITE Gas Chromatograph with a Mass Spectrometer (GC/MS) in the mobile laboratory.

Weather Conditions

It was a warm and partly sunny day, with temperatures above 80°F. While regional winds were from the south throughout the day, data from the 10-meter high weather station on the mobile laboratory recorded relatively low wind speeds (< 2 MPH) and fluctuating directions throughout the duration of cleaning activities. As can be seen in Figure 1, these fluctuations were between 90° and 270° on the directional azimuth, meaning that winds were constantly shifting between west/southwesterly and east/southeasterly, and thus blowing towards the north, northeast, and northwest. Moreover, given the presence of a variety of structures and canopies at

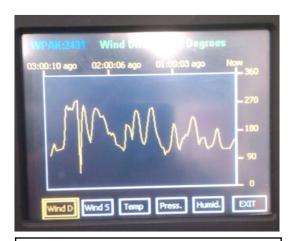


Figure 1: On-Board Weather Monitor

the facility, localized and transient near-ground-surface eddies may have further influenced air flow and contaminant transport patterns.

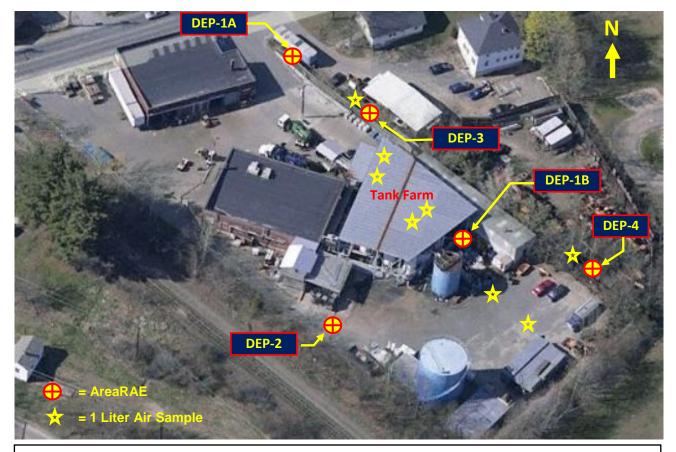


Figure 2 – Location of MassDEP AreaRAES and Air Samples

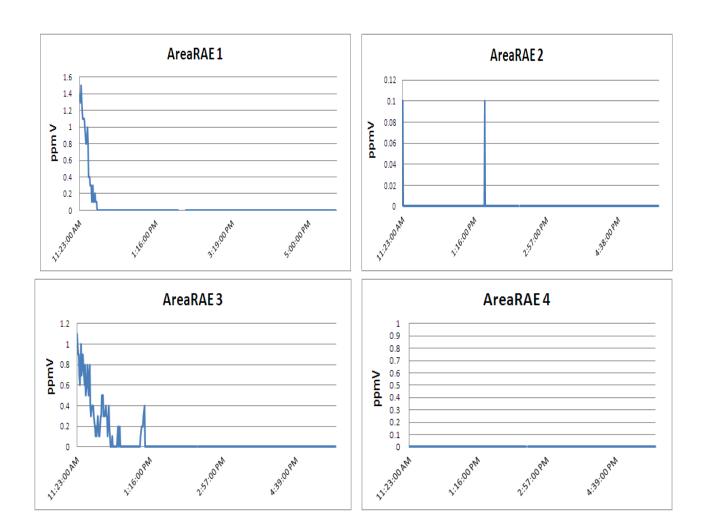
Because the shifting winds made it difficult to ascertain a downwind location, a decision was made in the early afternoon to focus on air quality directly in the work area, to understand "worst case" conditions, and therefore obtain a sense of contaminant chemistry and levels at the facility fence line. Accordingly, AreaRAE DEP-1A was moved directly into the tank farm area (designated at DEP-1B in Figure 2), where work was being done.

Results

Volatile Organic Compound (VOC) data from the PID sensor on the four AreaRAE units is presented in Figure 3. GC/MS data from the 8 discrete air samples are presented in Table 1.

Discussion

As can be seen in Figure 3, there were positive PID responses on AreaRAEs DEP-1 and DEP-3 after their initial placement in the northerly portion of the site. It is not clear what caused these initial readings, though there were trucks and equipment running in this area, including a Vac truck that was being used to withdraw air from tanks as they were being cleaned (with the exhaust vented through a drum of activated carbon). Surveying this area with a hand held PID meter also produced temporary readings of 0.1 to 0.2 ppmV, though they were not sustained.



To provide more definitive information in this regard, a 1 liter air sample was obtained from this location shortly after 1 PM, for analysis on the GC/MS. This sample, number 004 in Table 1, contained low levels of a number of VOCs, including site-related contaminants Methylene Chloride, 1,1,1-Trichloroethane, Trichloroethylene, and Tetrachloroethylene. *Importantly, all concentrations were below the established risk-based Action Levels.*

Other than a single low-level detection (0.1 ppmV) at 1:30 PM, AreaRAE DEP-2 (located on southwest fence line) reported "0.0" ppmV of VOCs throughout the day. AreaRAE DEP-4, located on the easterly corner of the site (toward the Wilson School) reported "0.0" ppmV of VOCs for the entire day.

Fence line GC/MS data in Table 1 included samples 001, 004, and 009. Only low levels of VOCs were detected, all below established Action Levels.

Higher levels of site-related contaminants were detected in the tank farm area, including in two samples (005 and 008) taken directly inside of tanks that previously contained chlorinated solvents. Even these concentrations were relatively low, topping out at 28.6 ppbV of Tetrachloroethylene inside of Tank 12, along with an estimated concentration of 300 ppbV of Cylclohexane.

	001	002	004	005	006	007	008	009	
Analyte ²	11:30 AM	12:05 PM	1:20 PM	2:00 PM	2:45 PM	3:40 PM	3:50 PM	4:35 PM	RL^3
Allalyte	SE Side of Facility	Top of Tank 11	AreaRAE 3	Inside of Tank 12	80 SE of Tank Farm	Top of Tank 2	Inside of Tank 1	Near AreaRAE 4	IVE
Vinyl Chloride	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5
Chloroethane ⁴	9.6	N.D.	N.D.	N.D.	N.D.	2.2	N.D.	N.D.	5
Trichloromonofluoromethane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	30
1,1-Dichloroethene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
Methylene Chloride	N.D.	N.D.	1.0	0.5	0.5	N.D.	0.8	N.D.	1
1,1,2-Trichlorotrifluoroethane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
Cis 1,2-Dichloroethylene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
Chloroform	N.D.	0.5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
1,2-Dichloroethane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5
1,1,1-Trichloroethane	N.D.	N.D.	0.9	0.7	N.D.	N.D.	0.2	N.D.	1
Benzene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
Carbon Tetrachloride	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
Trichloroethylene	N.D.	0.8	0.5	0.3	N.D.	N.D.	N.D.	N.D.	1
1,1,2-Trichloroethane	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
Toluene	0.3	0.4	0.4	3.3	0.4	N.D.	0.5	0.4	1
Tetrachloroethylene	N.D.	4.5	1.0	28.6	0.3	0.2	2.4	N.D.	1
Chlorobenzene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
Ethylbenzene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
p/m-Xylene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
Styrene	4.4	0.3	0.2	N.D.	0.5	N.D.	0.4	0.6	1
o-Xylene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	1
1,2-Dichlorobenzene (ortho)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5
1,2,4-Trichlorobenzene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5
HexachloroButadiene	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	5
Cyclohexane ⁵				300					NA
Hexane⁵					5				NA
2-Methylheptane ⁵					10				NA

Table 1 - Footnotes

¹N.D. = Not Detected; italicized values are estimated concentrations less than the Reporting Limit ²Purple Shaded rows are chemicals that were reportedly formerly stored at the facility ³RL = Analytical Reporting Limit (i.e., the minimum concentration that a contaminant can be reliably *quantified* – lower levels can be *detected*, but their concentrations can only be estimated) ⁴Chloroethane is often found in air sampling bags analyzed by the HAPSITE GC/MS, and is thought to be a sampling bag or system contaminant, and therefore not present or present at lower levels ⁵Orange shaded rows are chemicals that are not method analytes, but are tentatively identified by their mass spectra, and roughly quantified based upon the response of an internal standard ⁶NA = Not Applicable

The low levels of contaminants in the tank farm area during periods of invasive cleaning activities - and indeed inside the tanks themselves - provide an additional line of evidence that the low levels of VOCs identified at the facility fence line were representative of site conditions, even during a day of constantly shifting winds.

Summary and Conclusions

A multi-tiered air monitoring program was conducted by MassDEP personnel over the course of invasive cleaning activities at the site, during a time period when 10 of the 14 tanks in the tank farm were decontaminated.

Although screening instrumentation initially reported elevated readings in the northerly portion of the facility, it is unclear if such readings were related to the operation of vehicles and equipment in this area. Confirmatory data from a more definitive test method documented that all site-related contaminants were below establish Action Levels.

Except as noted in the northerly area, screening and chemical-specific data from fence line areas of the site were below established Action Levels, a finding that was consistent with the relatively low levels of contaminants found within the tank farm work area.

MassDEP Fig	eld Assessmer	it and Sup	port Team	(FAST)	AIR S	RTN:		
City or Town:	Framingham		Address:	138 Lelan	d St			Location:
Date Sampled:	7/30/12	Time:	11:30 AM	Field ID:	SE	Collector:	Fitzgerald	SE edge of
Date Analyzed:	7/30/12	Time:	11:34 AM	Lab ID:	001	Analyst:	Fitzgerald	site
		Conce	ntration	Reporti	ng Limit	Deel Eit	Peak	0
Method Analyt	es	ppbV	μg/m³	ppbV	μg/m³	Peak Fit	Purity	Synonym
/inyl Chloride		N.D.	N.D.	5	13	0.886	0.012	Chloroethene
Bromomethane	N.D. N.D. 5 22 0		0	0	Methyl Bromide			
Chloroethane		9.6	25.3	5	23	0.906	0.116	Ethyl Chloride
Trichloromonof	luoromethane	N.D.	N.D.	30	210	0.869	0.046	Freon 11
1,1-Dichloroeth	iene	N.D.	N.D.	1	4	0.794	0.019	Vinylidene Chloride
Methylene Chlo	oride	N.D.	N.D.	1	3.5	0.759	0.018	Dichloromethane
1,1,2-Trichlorot	trifluoroethane	N.D.	N.D.	1	7.7	0.973	0.056	Freon 113
1,1-Dichloroeth	ane	N.D.	N.D.	1	4.1	0	0	
Cis 1,2-Dichlor	oethylene	N.D.	N.D.	1	4	0	0	cis-1,2-Dichloroethen
Chloroform		N.D.	N.D.	1	4.9	0.881	0.022	Trichloromethane
1,2-Dichloroeth	iane	N.D.	N.D.	5	20	0.791	0.004	Ethylene Dichloride
1,1,1-Trichloro	ethane	N.D.	N.D.	1	5.5	0	0	Methyl Chloroform
Benzene		N.D.	N.D.	1	3.2	0	0	
Carbon Tetrach	nloride	N.D.	N.D.	1	6.3	0.864	0.078	Tetrachloromethane
1,2-Dichloropro	pane	N.D.	N.D.	1	4.6	0	0	Propylene Dichloride
Trichloroethyle	ne	N.D.	N.D.	1	5.4	0	0	Trichloroethene
cis-1,3-Dichlor	opropene	N.D.	N.D.	1	4.5	0	0	
rans-1,3-Dichl	oropropene	N.D.	N.D.	1	4.5	0	0	
1,1,2-Trichloro	ethane	N.D.	N.D.	1	5.5	0.844	0.071	
Toluene		0.3	1.3	1	3.8	0.998	0.444	
1,2-Dibromoeth	nane	N.D.	N.D.	1	7.7	0	0	Ethylene Dibromide
Tetrachloroethy	/lene	N.D.	N.D.	1	6.8	0	0	Perchloroethylene
Chlorobenzene		N.D.	N.D.	1	4.6	0	0	
Ethylbenzene		N.D.	N.D.	1	4.3	0.998	0.241	
o/m-Xylene (se	e note)	N.D.	N.D.	1	4.3	0.854	0.191	
Styrene		4.4	18.9	1	4.3	0.999	0.611	Vinyl benzene
o-Xylene		N.D.	N.D.	1	4.3	0.875	0.209	
1,1,2,2-Tetrach	loroethane	N.D.	N.D.	5	34	0.591	0.011	
1,3,5-Trimethyl	benzene	N.D.	N.D.	5	25	0.978	0.359	Mesitylene
1,2,4-Trimethyl	benzene	N.D.	N.D.	5	25	0.999	0.386	
1,3-Dichlorobe	, ,	N.D.	N.D.	5	30	0	0	m- Dichlorobenzene
1,2-Dichlorobe		N.D.	N.D.	5	30	0	0	o – Dichlorobenzene
1,4-Dichlorobe		N.D.	N.D.	5	30	0	0	p – Dichlorobenzene
1,2,4-Trichlorol		N.D.	N.D.	5	37	0	0	
HexachloroButa	adiene	N.D.	N.D.	5	53	0	0	
Concentration fo	or combined p- &	m- Xylenes	could be up t	to twice the	listed value	, due to co-e	lution conditi	ions.
nstrument: HAPS	SITE Smart Plus	GC/MS	Quality Conf	trol: 3-6 poir	nt cal w/ %F	RSD<30, Inte	rnal Stds, da	aily blank, daily cal check
I.D. = Not Detec	ted Italicized =	estimated ".	J" value (cond	centration is	less than F	Reporting Lin	nit).	Last Calibration: 3/31/11
					1.00			cely, >0.85 very likely mat

MassDEP Fie	eld Assessmen	t and Sup	port Team	(FAST)	AIR S	RTN:		
City or Town:	Framingham		Address:	138 Lelan	nd St			Location:
Date Sampled:	7/30/12	Time:	12:05 PM	Field ID:	Tnk 11	Collector:	Immerma	n Top of Tank
Date Analyzed:	7/30/12	Time:	12:17 PM	Lab ID:	002	Analyst:	Fitzgerald	#11
Method Analyt	AC	Conce	ntration	Reporti	ng Limit	Peak Fit	Peak	Synonym
	cs .	ppbV	μg/m³	ppbV	μg/m³		Purity	
Vinyl Chloride		N.D.	N.D.	5	13	0	0	Chloroethene
Bromomethane		N.D.	N.D.	5	22	0	0	Methyl Bromide
Chloroethane		N.D.	N.D.	5	23	0.807	0.013	Ethyl Chloride
Trichloromonof	luoromethane	N.D.	N.D.	30	210	0.965	0.079	Freon 11
1,1-Dichloroeth	iene	N.D.	N.D.	1	4	0.674	0.022	Vinylidene Chloride
Methylene Chlo	ride	N.D.	N.D.	1	3.5	0	0	Dichloromethane
1,1,2-Trichlorot	trifluoroethane	N.D.	N.D.	1	7.7	0.722	0.052	Freon 113
1,1-Dichloroeth	ane	N.D.	N.D.	1	4.1	0.728	0.044	
Cis 1,2-Dichlor	oethylene	N.D.	N.D.	1	4	0	0	cis-1,2-Dichloroethe
Chloroform		0.5	2.2	1	4.9	0.99	0.371	Trichloromethane
1,2-Dichloroeth	iane	N.D.	N.D.	5	20	0.983	0.005	Ethylene Dichloride
1,1,1-Trichloro	ethane	N.D.	N.D.	1	5.5	0	0	Methyl Chloroform
Benzene		N.D.	N.D.	1	3.2	0.883	0.072	
Carbon Tetrach	nloride	N.D.	N.D.	1	6.3	0.864	0.067	Tetrachloromethane
,2-Dichloropro	pane	N.D.	N.D.	1	4.6	0.31	0.024	Propylene Dichloride
Trichloroethyle	ne	0.8	4.5	1	5.4	0.989	0.655	Trichloroethene
is-1,3-Dichlor	opropene	N.D.	N.D.	1	4.5	0	0	
rans-1,3-Dichl	oropropene	N.D.	N.D.	1	4.5	0	0	
1,1,2-Trichloro	ethane	N.D.	N.D.	1	5.5	0	0	
Toluene		0.4	1.5	1	3.8	1	0.534	
1,2-Dibromoeth	nane	N.D.	N.D.	1	7.7	0	0	Ethylene Dibromide
Tetrachloroethy	/lene	4.5	30.3	1	6.8	0.98	0.936	Perchloroethylene
Chlorobenzene		N.D.	N.D.	1	4.6	0.753	0.023	
Ethylbenzene		N.D.	N.D.	1	4.3	0.935	0.1	
o/m-Xylene (se	e note)	N.D.	N.D.	1	4.3	0.992	0.263	
Styrene		0.3	1.3	1	4.3	0.999	0.383	Vinyl benzene
o-Xylene		N.D.	N.D.	1	4.3	0.997	0.264	
1,1,2,2-Tetrach	loroethane	N.D.	N.D.	5	34	0.744	0.039	
1,3,5-Trimethyl	benzene	N.D.	N.D.	5	25	0.925	0.111	Mesitylene
1,2,4-Trimethyl	benzene	N.D.	N.D.	5	25	0.931	0.112	
1,3-Dichlorobe	nzene (meta)	N.D.	N.D.	5	30	0.657	0.021	m- Dichlorobenzene
1,2-Dichlorobe	nzene (ortho)	N.D.	N.D.	5	30	0.667	0.017	o – Dichlorobenzene
1,4-Dichlorobe	nzene (para)	N.D.	N.D.	5	30	0.651	0.021	p – Dichlorobenzene
1,2,4-Trichlorol	benzene	N.D.	N.D.	5	37	0	0	
HexachloroButa	adiene	N.D.	N.D.	5	53	0	0	
Concentration fo	or combined p- &	m- Xylenes	could be up	to twice the	listed value	, due to co-e	elution condit	ions.
nstrument: HAPS	SITE Smart Plus	GC/MS	Quality Con	trol: 3-6 poir	nt cal w/ %F	RSD<30, Int	Stds, daily b	lank, daily cal check
	ted Italicized =		1					Last Calibration: 3/31/1

Date Sampled: 7 Date Analyzed: 7 Date Analyzed: 7 Method Analytes Vinyl Chloride Bromomethane Chloroethane Trichloroethene Methylene Chloride 1,1,2-Trichloroethane Cis 1,2-Dichloroethane 1,2-Dichloroethane 1,1,1-Trichloroethane 1,1,1-Trichloroethane Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene cis-1,3-Dichloropro trans-1,3-Dichloropro 1,1,2-Trichloroethar Toluene	mingham 7/30/12		A 1-1-						RTN:		
Method Analytes Vinyl Chloride Bromomethane Chloroethane Trichloroethene Methylene Chloride 1,1-Dichloroethane Cis 1,2-Dichloroethane Cis 1,2-Dichloroethane 1,2-Dichloroethane 1,1-Trichloroethane Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene Cis-1,3-Dichloropropane Trichloroethare Cis-1,3-Dichloropropane Trichloroethare Cis-1,3-Dichloropropane Trichloroethare Cis-1,3-Dichloropropane Trichloroethare Cis-1,3-Dichloropropane Trichloroethare Toluene	7/30/12		Address:	138 Lelan	d St				Location:		
Method Analytes Vinyl Chloride Bromomethane Chloroethane Trichloromonofluoro 1,1-Dichloroethene Methylene Chloride 1,1,2-Trichloroethane Cis 1,2-Dichloroethane Cis 1,2-Dichloroethane 1,1,1-Trichloroethane 1,1,1-Trichloroethane Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene cis-1,3-Dichloropropane trans-1,3-Dichloropropane Trichloroethane 1,1,1-Trichloroethylene cis-1,3-Dichloropropane Trichloroethylene Carbon Tetrachlorid 1,2-Trichloroethane	1/30/12	Time:	1:20 PM	Field ID:	AR3	Collector:	Immerma	1	Near Area		
Vinyl Chloride Bromomethane Chloroethane Trichloromonofluoro 1,1-Dichloroethene Methylene Chloride 1,1,2-Trichloroethane Cis 1,2-Dichloroethane Cis 1,2-Dichloroethane 1,2-Dichloroethane 1,1,1-Trichloroethane Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene Cis-1,3-Dichloropro Trans-1,3-Dichloropro 1,1,2-Trichloroethane Toluene	7/30/12	Time:	1:36 PM	Lab ID:	004	Analyst:	Fitzgerald	l	RAE #3		
Vinyl Chloride Bromomethane Chloroethane Trichloromonofluoro 1,1-Dichloroethene Methylene Chloride 1,1,2-Trichloroethane Cis 1,2-Dichloroethane Cis 1,2-Dichloroethane 1,2-Dichloroethane 1,1,1-Trichloroethane Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene Cis-1,3-Dichloropro Trans-1,3-Dichloropro 1,1,2-Trichloroethane Toluene		Conce	ntration	Reportir	ng Limit		Peak		_		
Bromomethane Chloroethane Trichloromonofluoro 1,1-Dichloroethene Methylene Chloride 1,1,2-Trichloroethane Cis 1,2-Dichloroethane Cis 1,2-Dichloroethane 1,2-Dichloroethane 1,1,1-Trichloroethane Benzene Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene cis-1,3-Dichloropro trans-1,3-Dichloropro 1,1,2-Trichloroethar Toluene		ppbV	μg/m³	ppbV	μg/m ³	Peak Fit	Purity		Synonym		
Bromomethane Chloroethane Trichloromonofluoro 1,1-Dichloroethene Methylene Chloride 1,1,2-Trichloroethane Cis 1,2-Dichloroethane Cis 1,2-Dichloroethane 1,2-Dichloroethane 1,1,1-Trichloroethane Benzene Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene cis-1,3-Dichloropro trans-1,3-Dichloropro 1,1,2-Trichloroethar Toluene		N.D.	N.D.	5	13	0.999	0.003	Chloro	ethene		
Trichloromonofluoro 1,1-Dichloroethene Methylene Chloride 1,1,2-Trichlorotrifluo 1,1-Dichloroethane Cis 1,2-Dichloroeth Chloroform 1,2-Dichloroethane 1,1,1-Trichloroethane Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene cis-1,3-Dichloropropane trans-1,3-Dichloropropane 1,1,2-Trichloroethar Toluene		N.D.	N.D.	5	22	0	0	Methyl	Bromide		
1,1-Dichloroethene Methylene Chloride 1,1,2-Trichlorotriflud 1,1-Dichloroethane Cis 1,2-Dichloroeth Chloroform 1,2-Dichloroethane 1,1,1-Trichloroethane Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene Cis-1,3-Dichloropropane Trichloroethane 1,1,2-Trichloroethane		N.D.	N.D.	5	23	0.749	0.005	Ethyl C			
1,1-Dichloroethene Methylene Chloride 1,1,2-Trichlorotriflud 1,1-Dichloroethane Cis 1,2-Dichloroeth Chloroform 1,2-Dichloroethane 1,1,1-Trichloroethane Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene Cis-1,3-Dichloropropane Trichloroethane 1,1,2-Trichloroethane	omethane	N.D.	N.D.	30	210	0.632	0.028	Freon			
Methylene Chloride 1,1,2-Trichlorotriflud 1,1-Dichloroethane Cis 1,2-Dichloroeth 1,2-Dichloroethane 1,2-Dichloroethane 1,1,1-Trichloroethane Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene cis-1,3-Dichloropropane trans-1,3-Dichloropropane 1,1,2-Trichloroethane		N.D.	N.D.	1	4	0	0		ene Chloride		
1,1,2-Trichlorotrifluo 1,1-Dichloroethane Cis 1,2-Dichloroethane Chloroform 1,2-Dichloroethane 1,1,1-Trichloroethane Benzene Carbon Tetrachlorida 1,2-Dichloropropana Trichloroethylene cis-1,3-Dichloropropana trans-1,3-Dichloropropana trans-1,3-Dichloropropana 1,1,2-Trichloroethana		1.0	3.6	1	3.5	0.858	0.406		omethane		
1,1-Dichloroethane Cis 1,2-Dichloroethy Chloroform 1,2-Dichloroethane 1,1,1-Trichloroethane Benzene Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene cis-1,3-Dichloropro trans-1,3-Dichloropro 1,1,2-Trichloroethan		N.D.	N.D.	1	7.7	0.55	0.051	Freon			
Cis 1,2-Dichloroeth Chloroform 1,2-Dichloroethane 1,1,1-Trichloroethar Benzene Carbon Tetrachlorid 1,2-Dichloropropan Trichloroethylene cis-1,3-Dichloropro trans-1,3-Dichloropro 1,1,2-Trichloroethar Toluene		N.D.	N.D.	1	4.1	0	0				
Chloroform 1,2-Dichloroethane 1,1,1-Trichloroethar Benzene Carbon Tetrachlorid 1,2-Dichloropropand Trichloroethylene cis-1,3-Dichloropropand trans-1,3-Dichloropropand 1,1,2-Trichloroethar Toluene		N.D.	N.D.	1	4	0	0	cis-1 2	-Dichloroethen		
1,2-Dichloroethane 1,1,1-Trichloroethan Benzene Carbon Tetrachlorid 1,2-Dichloropropane Trichloroethylene cis-1,3-Dichloropropropane trans-1,3-Dichloroethan Toluene	yiono	N.D.	N.D.	1	4.9	0	0	-	romethane		
1,1,1-Trichloroethar Benzene Carbon Tetrachlorid 1,2-Dichloropropand Trichloroethylene cis-1,3-Dichloropropand trans-1,3-Dichloropropand 1,1,2-Trichloroethar Toluene		N.D.	N.D.	5	20	0	0		e Dichloride		
Benzene Carbon Tetrachlorid 1,2-Dichloropropand Trichloroethylene cis-1,3-Dichloropropropand trans-1,3-Dichloropropropand 1,1,2-Trichloroethar Toluene		0.9	4.9	1	5.5	0.985	0.498		Chloroform		
Carbon Tetrachlorid 1,2-Dichloropropand Trichloroethylene cis-1,3-Dichloropropropant trans-1,3-Dichlorope 1,1,2-Trichloroethar Toluene	IIIC	N.D.	N.D.	1	3.2	0.881	0.430	Wetry	Chiorotomi		
1,2-Dichloropropand Trichloroethylene cis-1,3-Dichloroprop trans-1,3-Dichloropi 1,1,2-Trichloroethar Toluene	do	N.D.	N.D.	1	6.3	0.936	0.121	Totrock	loromethane		
Trichloroethylene cis-1,3-Dichloropro trans-1,3-Dichlorop 1,1,2-Trichloroethar Toluene		N.D.	N.D.	1	4.6	0.930	0.002				
cis-1,3-Dichloropro trans-1,3-Dichloropi 1,1,2-Trichloroethar Toluene	le	0.5	2.9	1	5.4	0.99	0.602		ene Dichloride roethene		
trans-1,3-Dichlorop 1,1,2-Trichloroethar Toluene	2000	N.D.	N.D.	1	4.5	0.99	0.602	Trichio	oethene		
1,1,2-Trichloroethar Toluene		N.D.	N.D.			0	0				
Toluene				1	4.5	0	0				
	ne	N.D.	N.D.	1	5.5						
		0.4	1.6	1	3.8	0.999	0.536	Ethania a	- Dibid-		
1,2-Dibromoethane		N.D.	N.D.	1	7.7	0 007	0		e Dibromide		
Tetrachloroethylene)	1.0	6.9	1	6.8	0.967	0.84	Percnic	proethylene		
Chlorobenzene		N.D.	N.D.	1	4.6	0.711	0				
Ethylbenzene		N.D.	N.D.	1	4.3	0.963	0.149				
p/m-Xylene (see no	ote)	N.D.	N.D.	1	4.3	0.992	0.317	10.11			
Styrene		0.2	1.0	1	4.3	0.999	0.416	Vinyl b	enzene		
o-Xylene		N.D.	N.D.	1	4.3	0.998	0.184				
1,1,2,2-Tetrachloroe		N.D.	N.D.	5	34	0.91	0.045				
1,3,5-Trimethylbenz		N.D.	N.D.	5	25	0.996	0.198	Mesityl	ene		
1,2,4-Trimethylbenz		N.D.	N.D.	5	25	0.998	0.198				
1,3-Dichlorobenzen		N.D.	N.D.	5	30	0.91	0.044		hlorobenzene		
1,2-Dichlorobenzen	· ·	N.D.	N.D.	5	30	0.913	0.039		hlorobenzene		
1,4-Dichlorobenzen		N.D.	N.D.	5	30	0.913	0.044	p – Dic	hlorobenzene		
1,2,4-Trichlorobenz		N.D.	N.D.	5	37	0	0				
-lexachloroButadien	ne	N.D.	N.D.	5	53	0	0				
Concentration for con	mbined p- &	m- Xylenes	could be up	to twice the	listed value	, due to co-e	elution condit	ions.			
nstrument: HAPSITE	Smart Plus	GC/MS	Quality Con	trol: 3-6 poir	nt cal w/ %F	RSD<30, Inte	ernal Stds, da	aily blank,	daily cal check		
N.D. = Not Detected	Italicized =	estimated "J	_					T	ibration: 3/31/11		
Peak Fit=agreement w											
COMMENTS:	-1					J		,,	, ,		

MassDEP Fie	eld Assessmen	t and Sup	port Team	(FAST)	AIR S	CREENING	DATA	RTN:		
City or Town:	Framingham		Address:	138 Lelan	d St		'		Location:	
Date Sampled:	7/30/12	Time:	2:00 PM	Field ID:	tnk 12	Collector:	Immermar	n	Inside Tank	
Date Analyzed:	7/30/12	Time:	2:15 PM	Lab ID:	005	Analyst:	Fitzgerald		#12	
		Conce	ntration	Reporti	ng Limit	D 1 511	Peak			
Method Analyt	es	ppbV	μg/m³	ppbV	μg/m³	Peak Fit	Purity		Synonym	
/inyl Chloride		N.D.	N.D.	5	13	0	0	Chloroe	thene	
Bromomethane		N.D.	N.D.	5	22	0.966	0.035	Methyl E	Bromide	
Chloroethane		N.D.	N.D.	5	23	0.973	0.048	Ethyl Ch	nloride	
Trichloromonof	luoromethane	N.D.	N.D.	30	210	0.854	0.011	Freon 1	1	
1,1-Dichloroeth	ene	N.D.	N.D.	1	4	0	0	Vinylide	ne Chloride	
Methylene Chlo	ride	0.5	1.6	1	3.5	0.961	0.265	Dichloro	methane	
1,1,2-Trichlorot	rifluoroethane	N.D.	N.D.	1	7.7	0.994	0.037	Freon 1	13	
1,1-Dichloroeth	ane	N.D.	N.D.	1	4.1	0.701	0.006			
Cis 1,2-Dichlor	oethylene	N.D.	N.D.	1	4	0	0	cis-1,2-	Dichloroethen	
Chloroform		N.D.	N.D.	1	4.9	0.54	0.018	Trichlor	omethane	
1,2-Dichloroeth	ane	N.D.	N.D.	5	20	0.943	0.006	Ethylene	Dichloride	
1,1,1-Trichloro	ethane	0.7	4.1	1	5.5	0.98	0.428	Methyl (Chloroform	
Benzene		N.D.	N.D.	1	3.2	0.741	0.024			
Carbon Tetrach	nloride	N.D.	N.D.	1	6.3	0.964	0.064	Tetrachl	oromethane	
,2-Dichloropro	pane	N.D.	N.D.	1	4.6	0.266	0.016	Propyle	ne Dichloride	
richloroethyle:	ne	0.3	1.6	1	5.4	0.983	0.468	Trichlor		
cis-1,3-Dichlor	opropene	N.D.	N.D.	1	4.5	0	0			
rans-1,3-Dichl		N.D.	N.D.	1	4.5	0	0			
1,1,2-Trichloro	ethane	N.D.	N.D.	1	5.5	0	0			
Гoluene		3.3	12.5	1	3.8	0.996	0.681			
1,2-Dibromoeth	iane	N.D.	N.D.	1	7.7	0	0	Ethylene	Dibromide	
Tetrachloroethy	/lene	28.6	193.7	1	6.8	0.985	0.972	Perchlo	roethylene	
Chlorobenzene		N.D.	N.D.	1	4.6	0	0			
Ethylbenzene		N.D.	N.D.	1	4.3	0.999	0.167			
o/m-Xylene (se	e note)	N.D.	N.D.	1	4.3	1	0.287			
Styrene		N.D.	N.D.	1	4.3	0.992	0.316	Vinyl be	nzene	
o-Xylene		N.D.	N.D.	1	4.3	0.999	0.287			
1,1,2,2-Tetrach	loroethane	N.D.	N.D.	5	34	0.965	0.029			
1,3,5-Trimethyl	benzene	N.D.	N.D.	5	25	0.92	0.197	Mesityle	ne	
1,2,4-Trimethyl	benzene	N.D.	N.D.	5	25	0.993	0.201			
1,3-Dichlorobe	nzene (meta)	N.D.	N.D.	5	30	0	0	m- Dich	lorobenzene	
1,2-Dichlorobe	nzene (ortho)	N.D.	N.D.	5	30	0	0	o – Dich	lorobenzene	
1,4-Dichlorobe	nzene (para)	N.D.	N.D.	5	30	0	0	p – Dich	lorobenzene	
1,2,4-Trichlorol	penzene	N.D.	N.D.	5	37	0	0			
HexachloroButa	adiene	N.D.	N.D.	5	53	0	0			
Concentration fo	r combined p- &	m- Xylenes	could be up	to twice the	listed value	e, due to co-e	elution condit	tions.		
	SITE Smart Plus	-					Stds, daily bl		cal check	
	ted Italicized =								bration: 3/31/11	
	ent w/ spectral da									
	CITE W/ SUCCERAL CO	alabast, Ft	an runiy−ifil	CHEICHCE II	orn coelulli	ig compound	a3. i it ~0.0 III	NCIY, ~U.OC	very linely fila	

MassDEP Fie	1	rt and Sup				CREENING	DAIA	RTN:	
	Framingham		Address:				T	Location:	
Date Sampled:		Time:	2:45 PM	Field ID:	SE		Fitzgerald		
Date Analyzed:	7/30/12	Time:	3:02 PM	Lab ID:	006	Analyst:	Fitzgerald	tank farm	
Method Analyt	90	Conce	ntration	Reporti		Peak Fit	Peak	Synonym	
Wicthou Analyti	C3	ppbV	μg/m³	ppbV	μg/m³	T CURT II	Purity	Cynonym	
Vinyl Chloride		N.D.	N.D.	5	13	0	0	Chloroethene	
Bromomethane		N.D.	N.D.	5	22	0	0	Methyl Bromide	
Chloroethane		N.D.	N.D.	5	23	0.943	0.052	Ethyl Chloride	
Trichloromonof	luoromethane	N.D.	N.D.	30	210	0.98	0.12	Freon 11	
1,1-Dichloroeth	ene	N.D.	N.D.	1	4	0	0	Vinylidene Chloride	
Methylene Chlo	ride	0.5	1.8	1	3.5	0.898	0.316	Dichloromethane	
1,1,2-Trichlorot	rifluoroethane	N.D.	N.D.	1	7.7	0.702	0.079	Freon 113	
1,1-Dichloroeth	ane	N.D.	N.D.	1	4.1	0.853	0.004		
Cis 1,2-Dichlor	oethylene	N.D.	N.D.	1	4	0	0	cis-1,2-Dichloroether	
Chloroform		N.D.	N.D.	1	4.9	1	0.005	Trichloromethane	
1,2-Dichloroeth	ane	N.D.	N.D.	5	20	0.961	0.004	Ethylene Dichloride	
1,1,1-Trichloro	ethane	N.D.	N.D.	1	5.5	0	0	Methyl Chloroform	
Benzene		N.D.	N.D.	1	3.2	0.907	0.075	-	
Carbon Tetrach	nloride	N.D.	N.D.	1	6.3	0.854	0.105	Tetrachloromethane	
1,2-Dichloropro	pane	N.D.	N.D.	1	4.6	0	0	Propylene Dichloride	
richloroethylei	_	N.D.	N.D.	1	5.4	0.979	0.257	Trichloroethene	
cis-1,3-Dichlor		N.D.	N.D.	1	4.5	0	0		
rans-1,3-Dichl		N.D.	N.D.	1	4.5	0	0		
1,1,2-Trichloro		N.D.	N.D.	1	5.5	0	0		
Toluene		0.2	0.9	1	3.8	0.996	0.452		
1,2-Dibromoeth	nane	N.D.	N.D.	1	7.7	0	0	Ethylene Dibromide	
Tetrachloroethy		0.3	1.9	1	6.8	0.953	0.649	Perchloroethylene	
Chlorobenzene		N.D.	N.D.	1	4.6	0	0	. c.cc.com, c.c.c	
Ethylbenzene		N.D.	N.D.	1	4.3	0.988	0.18		
p/m-Xylene (se	e note)	N.D.	N.D.	1	4.3	0.982	0.169		
Styrene	0 11010)	0.5	2.3	1	4.3	1	0.547	Vinyl benzene	
o-Xylene		N.D.	N.D.	1	4.3	0.969	0.144	VIII DOILEGIIO	
1,1,2,2-Tetrach	loroethane	N.D.	N.D.	5	34	0.58	0.075		
1,3,5-Trimethyl		N.D.	N.D.	5	25	0.997	0.203	Mesitylene	
1,2,4-Trimethyl		N.D.	N.D.	5	25	0.998	0.203	ookylono	
1,3-Dichlorobe		N.D.	N.D.	5	30	0.930	0.203	m- Dichlorobenzene	
1,2-Dichlorobe	` '	N.D.	N.D.	5	30	0	0	o – Dichlorobenzene	
1,4-Dichlorobe		N.D.	N.D.	5	30	0	0	p – Dichlorobenzene	
1,2,4-Trichlorol		N.D.	N.D.	5	37	0	0	P - Dictilotopetizette	
HexachloroButa		N.D.	N.D.	5	53	0	0		
						,	_	ione	
	r combined p- &								
	SITE Smart Plus			-				aily blank, daily cal check	
	ted Italicized =							Last Calibration: 3/31/1	
		otobooo: Do	ak Durity-int	orforance fr	om coelutin	a compound	lo Eit SO E lil	kely, >0.85 very likely ma	

MassDEP Fie	eld Assessmen	nt and Sup	port Team	(FAST)	AIR SO	CREENING	DATA	RTN:		
City or Town:	Framingham		Address:	138 Lelan	d St				Location:	
Date Sampled:	7/30/12	Time:	3:40 PM	Field ID:	tnk frm	Collector:	Immermar	n	Top Tank	
Date Analyzed:	7/30/12	Time:	3:49 PM	Lab ID:	007	Analyst:	Fitzgerald		Farm	
14-4b 0b-4	_	Conce	ntration	Reporti	ng Limit	Dook Fit	Peak		C. man m	
Method Analyto	es	ppbV	μg/m ³	ppbV	μg/m³	Peak Fit	Purity		Synonym	
Vinyl Chloride		N.D.	N.D.	5	13	0	0	Chloro	ethene	
3romomethane		N.D.	N.D.	5	22	0.904	0.019	Methyl	Bromide	
Chloroethane		2.2	5.9	5	23	0.947	0.106	Ethyl C	hloride	
Trichloromonof	uoromethane	N.D.	N.D.	30	210	0.942	0.044	Freon	11	
1,1-Dichloroeth	ene	N.D.	N.D.	1	4	0.838	0.039	Vinylide	ene Chloride	
Methylene Chlo	ride	N.D.	N.D.	1	3.5	0	0	Dichlor	omethane	
1,1,2-Trichlorot	rifluoroethane	N.D.	N.D.	1	7.7	0.779	0.041	Freon	113	
1,1-Dichloroeth	ane	N.D.	N.D.	1	4.1	0	0			
Cis 1,2-Dichlor	oethylene	N.D.	N.D.	1	4	0	0	cis-1,2	-Dichloroethen	
Chloroform		N.D.	N.D.	1	4.9	0	0	Trichlo	romethane	
1,2-Dichloroeth	ane	N.D.	N.D.	5	20	0.951	0.012	Ethyler	e Dichloride	
1,1,1-Trichloroe	ethane	N.D.	N.D.	1	5.5	0	0	Methyl	Chloroform	
Benzene		N.D.	N.D.	1	3.2	0.953	0.135			
Carbon Tetrach	loride	N.D.	N.D.	1	6.3	0.956	0.108	Tetrach	loromethane	
1,2-Dichloropro	pane	N.D.	N.D.	1	4.6	0	0	Propyle	ene Dichloride	
Frichloroethyle:	ne	N.D.	N.D.	1	5.4	0.977	0.376	Trichlo	roethene	
sis-1,3-Dichlor	opropene	N.D.	N.D.	1	4.5	0	0			
rans-1,3-Dichl	propropene	N.D.	N.D.	1	4.5	0	0			
1,1,2-Trichloro		N.D.	N.D.	1	5.5	0	0			
Foluene		N.D.	N.D.	1	3.8	0.99	0.335			
1,2-Dibromoeth	ane	N.D.	N.D.	1	7.7	0	0	Ethyler	e Dibromide	
Tetrachloroethy	lene	0.2	1.7	1	6.8	0.92	0.654	Perchlo	oroethylene	
- Chlorobenzene		N.D.	N.D.	1	4.6	0	0		-	
Ethylbenzene		N.D.	N.D.	1	4.3	0.969	0.215			
o/m-Xylene (se	e note)	N.D.	N.D.	1	4.3	0.998	0.258			
Styrene		N.D.	N.D.	1	4.3	0.99	0.402	Vinyl b	enzene	
o-Xylene		N.D.	N.D.	1	4.3	0.999	0.109			
1,1,2,2-Tetrach	loroethane	N.D.	N.D.	5	34	0	0			
1,3,5-Trimethyl	benzene	N.D.	N.D.	5	25	0.897	0.138	Mesityl	ene	
1,2,4-Trimethyl	benzene	N.D.	N.D.	5	25	0.907	0.139			
1,3-Dichlorobe	nzene (meta)	N.D.	N.D.	5	30	0	0	m- Dic	hlorobenzene	
1,2-Dichlorobe	nzene (ortho)	N.D.	N.D.	5	30	0	0	o – Dic	hlorobenzene	
1,4-Dichlorobe	nzene (para)	N.D.	N.D.	5	30	0	0	p – Dic	hlorobenzene	
1,2,4-Trichlorol	penzene	N.D.	N.D.	5	37	0	0			
HexachloroButa	diene	N.D.	N.D.	5	53	0	0			
Concentration fo	r combined p- &	m- Xylenes	could be up	to twice the	listed value	, due to co-e	elution condit	ions.		
	SITE Smart Plus	-	· ·			-			daily cal check	
	ted Italicized =								libration: 3/31/11	
	ent w/ spectral d						•			
						J	3.0 111		, ,	

City on Tarre					AIR SCREENING DATA				
City or Town:	Framingham		Address:	138 Lelan	d St			I.	Location:
Date Sampled:	7/30/12	Time:	3:50 PM	Field ID:	tnk 1	Collector:	Immermar	1	Tank #1 -
Date Analyzed:	7/30/12	Time:	4:23 PM	Lab ID:	800	Analyst:	Fitzgerald		inside
		Concer	ntration	Reporti	ng Limit	D 1 50	Peak		
Method Analyt	es	ppbV	μ g /m³	ppbV	μg/m³	Peak Fit	Purity		Synonym
Vinyl Chloride		N.D.	N.D.	5	13	0	0	Chloroe	ethene
Bromomethane		N.D.	N.D.	5	22	0.726	0.008	Methyl	Bromide
Chloroethane		N.D.	N.D.	5	23	0.969	0.071	Ethyl C	hloride
Trichloromonof	luoromethane	N.D.	N.D.	30	210	0.943	0.013	Freon '	11
1,1-Dichloroeth	ene	N.D.	N.D.	1	4	0	0	Vinylide	ene Chloride
Methylene Chlo	ride	0.8	2.7	1	3.5	0.896	0.313	Dichlor	omethane
1,1,2-Trichlorot	rifluoroethane	N.D.	N.D.	1	7.7	0.634	0.05	Freon '	113
1,1-Dichloroeth	ane	N.D.	N.D.	1	4.1	0.873	0.041		
Cis 1,2-Dichlor	oethylene	N.D.	N.D.	1	4	0.675	0.032	cis-1,2	-Dichloroethen
Chloroform	-	N.D.	N.D.	1	4.9	0.914	0.086	Trichlo	romethane
1,2-Dichloroeth	ane	N.D.	N.D.	5	20	0.89	0.004	Ethylen	e Dichloride
1,1,1-Trichloro	ethane	0.2	1.3	1	5.5	0.975	0.235		Chloroform
Benzene		N.D.	N.D.	1	3.2	0.927	0.105		
Carbon Tetrach	nloride	N.D.	N.D.	1	6.3	0.97	0.069	Tetrach	loromethane
1,2-Dichloropro	pane	N.D.	N.D.	1	4.6	0	0	Propyle	ene Dichloride
richloroethylei		N.D.	N.D.	1	5.4	0.965	0.337		roethene
cis-1,3-Dichlor		N.D.	N.D.	1	4.5	0	0		
rans-1,3-Dichl		N.D.	N.D.	1	4.5	0	0		
1,1,2-Trichloro	· ·	N.D.	N.D.	1	5.5	0	0		
Foluene		0.5	2.0	1	3.8	0.993	0.573		
1,2-Dibromoeth	iane	N.D.	N.D.	1	7.7	0	0	Ethylen	e Dibromide
Tetrachloroethy		2.4	16.1	1	6.8	0.981	0.928	_	proethylene
Chlorobenzene		N.D.	N.D.	1	4.6	0	0		
Ethylbenzene		N.D.	N.D.	1	4.3	0.946	0.207		
o/m-Xylene (se	e note)	N.D.	N.D.	1	4.3	1	0.431		
Styrene	0 11010)	0.4	1.9	1	4.3	0.998	0.483	Vinyl b	enzene
o-Xylene		N.D.	N.D.	1	4.3	0.98	0.239	Viiiyi D	01120110
1,1,2,2-Tetrach	loroethane	N.D.	N.D.	5	34	0.708	0.006		
1,3,5-Trimethyl		N.D.	N.D.	5	25	0.962	0.109	Mesityl	ene
1,2,4-Trimethyl		N.D.	N.D.	5	25	0.999	0.103	Wesityi	bile
1,3-Dichlorobe		N.D.	N.D.	5	30	0.631	0.024	m- Dic	hlorobenzene
1,2-Dichlorobe		N.D.	N.D.	5	30	0.612	0.024		hlorobenzene
1,4-Dichlorobe	, ,	N.D.	N.D.	5	30	0.617	0.022		hlorobenzene
1,2,4-Trichlorol	,	N.D.	N.D.	5	37	0.017	0.024	p - Dic	Illoroberizerie
T,2,4-THCHIOTOI HexachloroButa		N.D.	N.D.	5	53	0	0		
								ione	
	r combined p- &	-							
	SITE Smart Plus						Stds, daily bl		
	ted Italicized =							l	ibration: 3/31/11
eak Fit=agreem	ent w/ spectral d	atabase; Pe	ak Purity=int	erference fr	om coelutin	ig compound	ds. Fit >0.5 lil	kely, >0.8	5 very likely mat
OMMENTS:									

MassDEP Fig	eld Assessmen	it and Sup	port leam	(FAST)	AIR S	RTN:			
City or Town:	Framingham		Address:	133 Lelan	d St				Location:
Date Sampled:	7/30/12	Time:	4:35 PM	Field ID:	AR 4	Collector:	Fitzgerald	l	Near AreaRA
Date Analyzed:	7/30/12	Time:	4:59 PM	Lab ID:	009	Analyst:	Fitzgerald	l	#4 (SE crnr)
		Conce	ntration	Reporti	ng Limit	5	Peak		
Method Analyt	es	ppbV	μ g /m³	ppbV	μg/m³	Peak Fit	Purity		Synonym
Vinyl Chloride		N.D.	N.D.	5	13	0	0	Chloroe	ethene
Bromomethane		N.D.	N.D.	5	22	0.92	0.023	Methyl	Bromide
Chloroethane		N.D.	N.D.	5	23	0.992	0.003	Ethyl C	hloride
Trichloromonof	luoromethane	N.D.	N.D.	30	210	0.726	0.043	Freon 1	11
1,1-Dichloroeth	ene	N.D.	N.D.	1	4	0	0	Vinylide	ene Chloride
Methylene Chlo	ride	N.D.	N.D.	1	3.5	0	0	Dichlor	omethane
1,1,2-Trichloro	rifluoroethane	N.D.	N.D.	1	7.7	0.618	0.065	Freon 1	113
1,1-Dichloroeth	ane	N.D.	N.D.	1	4.1	0	0		
Cis 1,2-Dichlor	oethylene	N.D.	N.D.	1	4	0.854	0.041	cis-1,2-	-Dichloroethene
Chloroform	-	N.D.	N.D.	1	4.9	0.833	0.053	Trichlor	omethane
1,2-Dichloroeth	ane	N.D.	N.D.	5	20	0	0	Ethylen	e Dichloride
1,1,1-Trichloro	ethane	N.D.	N.D.	1	5.5	0	0		Chloroform
Benzene		N.D.	N.D.	1	3.2	0	0		
Carbon Tetrach	nloride	N.D.	N.D.	1	6.3	0	0	Tetrach	loromethane
1,2-Dichloropro		N.D.	N.D.	1	4.6	0	0		ene Dichloride
Trichloroethyle		N.D.	N.D.	1	5.4	0	0		roethene
cis-1,3-Dichlor		N.D.	N.D.	1	4.5	0	0		
trans-1,3-Dichl		N.D.	N.D.	1	4.5	0	0		
1,1,2-Trichloro		N.D.	N.D.	1	5.5	0	0		
Toluene	Strairo	0.4	1.5	1	3.8	0.996	0.535		
1.2-Dibromoeth	iane	N.D.	N.D.	1	7.7	0.550	0.000	Ethylen	e Dibromide
Tetrachloroethy		N.D.	N.D.	1	6.8	0.862	0.462		proethylene
Chlorobenzene		N.D.	N.D.	1	4.6	0.002	0.402	Toronic	rocaryiono
Ethylbenzene		N.D.	N.D.	1	4.3	0.975	0.12		
p/m-Xylene (se	e note)	N.D.	N.D.	1	4.3	0.987	0.263		
Styrene	c note)	0.6	2.6	1	4.3	0.999	0.563	Vinyl be	enzene
o-Xylene		N.D.	N.D.	1	4.3	0.993	0.264	Villyl be	SHZOHO
1,1,2,2-Tetrach	loroethane	N.D.	N.D.	5	34	0.933	0.204		
1,3,5-Trimethyl		N.D.	N.D.	5	25	0.998	0.201	Mesityle	ono
1,2,4-Trimethyl		N.D.	N.D.	5	25	0.999	0.201	Mesityi	5116
1,3-Dichlorobe		N.D.	N.D.	5	30	0.999	0.202	m- Die	hlorobenzene
1,2-Dichlorobe	. ,	N.D.	N.D.	5	30	0	0		hlorobenzene
1,4-Dichlorobe	, ,	N.D.	N.D.	5	30	0	0		hlorobenzene
1,2,4-Trichlorol		N.D.	N.D.	5	37	0	0	p – Dic	HIOTODEHZEHE
			N.D.	5		0	0		
HexachloroButa		N.D.			53	1		iono	
	or combined p- &								1.9
	SITE Smart Plus		-						daily cal check
	ted Italicized =						•		ibration: 3/31/11
	ent w/ spectral d	atabase; Pe	ak Purity=int	erterence fr	om coelutin	ng compound	ts. Fit >0.5 lil	kely, >0.8	5 very likely matc
COMMENTS:									